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GEOGRAPHICAL NOTES.

INTERNATIONAL GEOGRAPHICAL INSTITUTE.—This Institute, which is to be opened in Paris towards the end of the month of July, will comprise a reading-room, a permanent exhibition of apparatus and instruments for the use of explorers, and a school of gratuitous instruction for travellers.

M.-D. Kaltbrunner, a distinguished geographer, to whom is due the idea of the enterprise, will give in the chief cities of France a course of lectures on the "Art of Travelling;" the proceeds of the course to constitute the nucleus of a "Fund in Aid of Explorers," of whatever nation. It is hoped that other lecturers will lend their assistance to the work.

Communications may be addressed: M.-D. Kaltbrunner, géographe, Champigny-sur-Marne, près Paris.

SUMMER HEAT.—It may help the philosophy of those who are compelled to endure the ordinary American summer to know that the Government Geologist of South Australia, who has lately returned from an exploration in Alexandra Land, reports a heat of 124° in the shade. Neither Aden, nor Massowah, nor Fort Yuma can do better, or worse, than this.

THE GEOLOGICAL MAP OF NEW JERSEY.—This map, which is sheet No. 20 (and the last) of the Atlas of New Jersey, brought out by the Geological survey of the State, under direction of Prof. Geo. H. Cook, is drawn on a scale of 5 miles to an inch. The formations lie with unusual regularity northeast and southwest across the State.

The southernmost and largest is of yellow gravel and sandy clays; next come fire clay and sand and clay marls; then trap, red sandstone and shales; then gneiss, granite and limestone; then Hudson River slates, and at the northern end sandstone.

THE FLOODS IN PENNSYLVANIA.—Towards the end of the month of May long-continued rains in Central and Western Pennsylvania did great damage; but all other loss seems as nothing in comparison with the destruction that fell, in the afternoon of May 31, upon the Conemaugh Valley, in Cambria County.

The Valley is a narrow gorge cut by the Conemaugh River through mountains rich in coal and iron and limestone, which supplied the industries of many towns and villages. At the upper end, and at an elevation of about 300 feet above the river, was a body of water formerly known as Conemaugh Lake. This lake, originally a ravine, had been formed by a dam, between 800 and 1000 feet long, built across the lower end.

The height and thickness of the dam are not accurately given, but an engineer familiar with it affirms that it was equal to any ordinary pressure. At a level of 7 feet below the top of the dam, the water of the lake covered a surface three miles in length by more than a mile in width.

The inflow from the rains raised this level on the 31st of May at the rate of ten inches an hour, and at 1 o'clock P. M., when the engineer walked over it, the top of the dam was three inches below the water, which was beginning to cut a channel for itself.

Of what material was the work that yielded so soon? Less than two hours after, the dam gave way and the flood poured down the valley. The three miles of water were drained out, says the engineer, "in forty-five minutes."

Warning of the danger had been sent by telegraph early in the day, but there were many whom it did not reach.

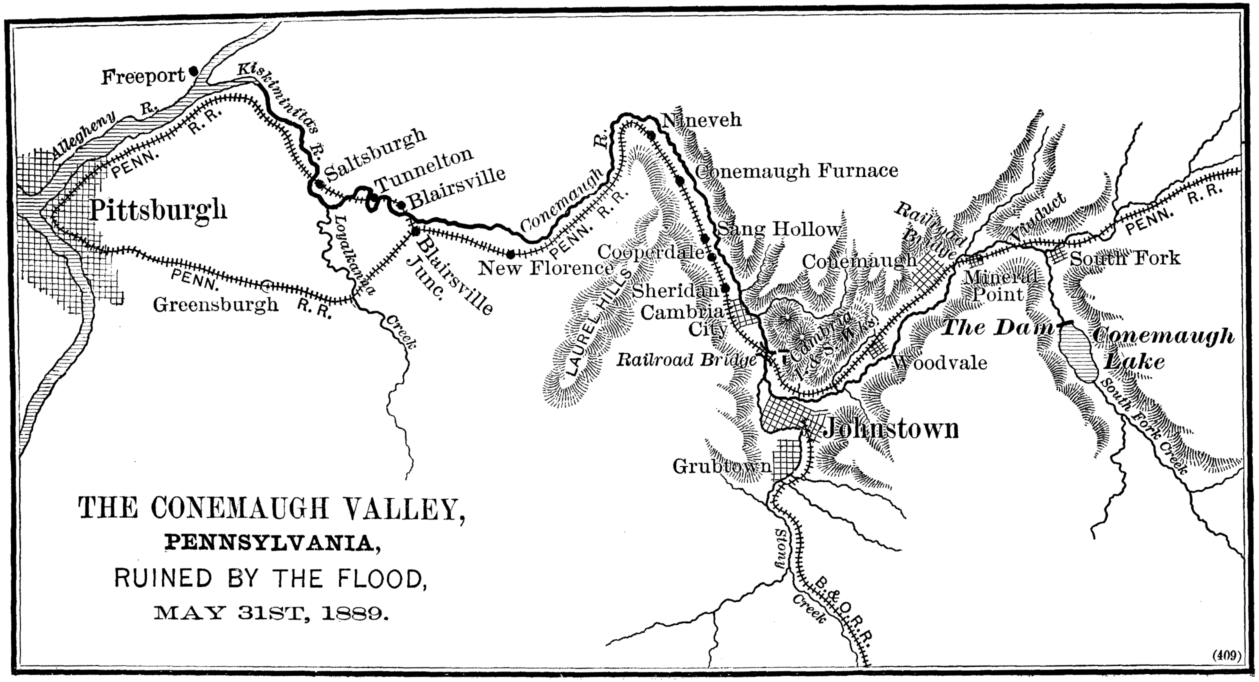
Everything in the path of the torrent went to ruin. The smaller towns and villages have been annihilated; and the loss of property amounts to many millions. At Johnstown alone, 13 miles from the lake, the damage done is summed up at not less than $20,000,000.

The number of those who perished may never be rightly known; but men begin to believe that the estimate of 8,000 may fall short of the truth.

No calamity of equal magnitude is recorded in the history of the United States.

THE SACO RIVER.—The *Scottish Geographical Magazine* for June publishes the dates, supplied by Mr. John M. Batchelder, Cambridge, Mass., of the opening and closing of the Saco River, *in that State*, as observed by him for a series of years beginning in 1820. The Saco, it is added, is situated in lat. 43 31′ N., long. 70° 26′ W.

Not even the best will in the world can bring this position within the limits of the State of Massachusetts,



THE CONEMAUGH VALLEY,
PENNSYLVANIA,
RUINED BY THE FLOOD,
MAY 31ST, 1889.

and the table of dates is, therefore, less useful than it might be.

CLIMATOLOGY OF BRAZIL.—Mr. H. Morize begins, in the January number of the *Revista do Observatorio*, of Rio de Janeiro, a sketch of the climatic conditions of Brazil. The metrical system is employed throughout. There are three great zones in the Empire. The first, which is called the torrid, or tropical, comprehends the part of the country in which the mean temperature exceeds 25° (77° Fahr.) The line that marks off this zone passes to the S. of Pernambuco, through Alagôas, or Sergipe, cuts off a section of Goyaz and comes out in Matto-Grosso below Cuyabá.

The provinces of Pernambuco, Parahyba, Rio Grande do Norte, Cearà, Piauhy, Maranham and Amazonas, are entirely within the tropical zone.

The second zone, the hot or sub-tropical, lies between the isotherms of 25° and 20° (77° and 68° Fahr.). The line of 20° passes through the southern part of the province of S. Paulo, leaving to the S. a fraction of S. Paulo, the larger part of Paraná, and the entire provinces of Santa Catharina and Rio Grande do Sul.

The third or temperate zone lies S. of the second, and includes the provinces of Paraná, Santa Catharina and Rio Grande do Sul, with a portion of S. Paulo. The mean temperature varies between 15° and 20° (59° and 68° Fahr.).

The tropical zone may be subdivided into three parts: 1st, that of the Upper Amazonas, 2d, that of the interior of Maranham, Pará, Matto-Grosso, Piauhy, (and as far as Bahia and Minas-Geraes), and 3d, the coast region of Pará, Piauhy, Ceará, Rio Grande do Norte, Maranham and Parahyba. In the Upper Amazonas there is a greater rainy season, which begins at the end of February, and lasts till June, and a season of lighter rains, which begin in the middle of October, and cease early in January. Both make the rivers overflow, and there is a difference of nearly 46 feet in level between the lowest stage of the water, in September, and the highest, which occurs in April or May. There are two dry seasons, a long one from the first of July to the middle of October, and a short one from January to February. At the close of the heavy rainy season, there is for a few days a lowering of the temperature to such a point that it is said many of the fishes in the River Teffe die at this time,

According to Mr. J. Pinkas, chief engineer of the projected Madeira-Mamoré Railway, the mean temperature on the Upper Madeira is 26° (79° Fahr.) and the highest 39° 5′ (102° Fahr.). The heat is oppressive, because of the humidity, the hygrometer varying constantly between 80 and 100. The condensation which takes place immediately after sunset is so great that men sleeping under thick tents find their clothes wet in the morning, and the tent cover soaked as if a heavy rain had fallen.

In this part of the Amazonas the prevailing wind is from the S. W., with frequent calms, and a lowering of the temperature. These calms occur in March, April and May, and the cold is produced by the descent of the icy air from the summits of the Andes. The arrival of this cold current takes place always a few hours after the sun has passed the meridian, and is invariably preceded by a very high temperature, with an atmosphere saturated with moisture and a barometrical depression of from 5 to 6 millimetres.

These rapid changes occur in the whole intertropical zone of the Continent. They are also met with in the interior of all the Northern provinces, where a fall of 20° in a few hours is frequent.

In Matto-Grosso the prevailing winds are from the N.W. and the S.E., the former warm and moist, the latter always very cold. During the summer the pampa wind from the S.W. brings occasional storms with a fall of the thermometer.

At Cuyabá (the capital of Matto-Grosso) the mean temperature of the year 1876, was 27° 7, (82° Fahr.), and that of 1877, 26° 7 (80° Fahr.). The temperature is at daybreak from 4° to 6° (7° to 11° Fahr.), below that of midday, and it continues to rise until 4 or 5 o'clock in the afternoon, when it begins to diminish. Observations made for the months July–October, 1888, with excellent instruments left by the brothers Von Steinen, confirmed the previous record.

On the table-lands of the province it is not uncommon to see frosts in July (a winter month). In the coast-lands, the third subdivision of the tropical zone, the temperature is more equable. Here the rains occur in summer and autumn and are heaviest in April.

At S. Luiz de Maranhão (2° 31′ S. Lat.) the annual rainfall is 2m .45 (96 inches), and the rainiest months are March and April. The range of the thermometer is very slight, and the wind blows all the year from E.N.E.

At Therezina, capital of Piauhy, the temperature varies from about 78° to 83° Fahr.

During the dry season the wind blows from the S.S.E and E, and in the rainy season from the N. Thunder-storms are frequent in the months of May and September. At Amarante, in the same province, much the same conditions prevail, and the summer season sometimes passes without a single drop of rain.

The climate of Ceará, the province to the E of Piauhy, is also marked by regularity. It is only in the mountain region that the cold makes itself felt, and there the mean is in some places 25°, in others 43° Fahr. The distinction between the dry and the rainy seasons is more sharply defined, the former beginning in July and lasting till February and the latter covering the rest of the year. The mean annual rain-fall, deduced from 28 years' observations, was 1m .50 (59 inches). During the long, dry season, the plains, which feed the immense herds of cattle, are wholly burnt up by the sun, and the poor beasts retire to the woods, where they keep themselves alive on leaves and shrubs till the return of the rains, when in a few weeks the land that had been dried to powder is covered with the most vigorous growth of grasses. There are, however, seasons when the rain fails, and the cattle die by thousands, and the population suffers the extremity of famine.

According to one authority quoted, these droughts are periodical, the greatest occurring every 100 years and the less severe every 20 years, without counting seasons of partial drought. In 1792 not a drop of rain fell during the whole year, and the Captain-General of Pernambuco reported to the Portuguese Government that more than a third of the population had died of starvation.

The province of Pernambuco enjoys a climate somewhat fresher than that of the tropical zone and approximating to that of the warmer countries of Europe and the Mediterranean coast of Africa. In this province, as well as in Alagôas, Sergipe and the sea-coast of Bahia, rain falls throughout the year, though the greatest precipitation is in June, July and August, Observations at Recife (Pernambuco), the capital, which is only 10 feet above the level of the sea, establish a mean temperature of 26° 2 (79° Fahr.). The winds are: the south in the rainy season, the east and northeast in October, November and December, then again the south wind, except in March and April, when the southeast prevails.

HERR JUNKER.—In a note on p. xxvii. of the *Bibliotheca Americana Vetustissima,* Mr. Henry Harrisse remarks that "There is no dedication to *Ander Schiffahrt's* 2d voyage;" which seems natural enough to those who know that Ander Schiffahrt was not a man, but a Second Voyage. Mr. Harrisse himself understands the case better to-day than he did when he made his note, and he will be glad to learn that his navigator is no longer condemned to a lonely life.

The March number of the Royal Geographical Society's *Proceedings*, has, on p. 189, a brief notice of a new work: "El Dorado. Geschichte der Entdeckungen nach dem Goldlande El Dorado im XVI. und XVII. Jahrhundert," by Ferd. Adalb. Junker von Langegg.

The reviewer says that *Herr Junker's* book is the result of great research. The judgment may be sound, but to turn the Junker von Langegg into Herr Junker is not less bewildering than it would be to speak of the

Baron of Bradwardine as Mr. Baron, or Lord Palmerston as Mr. Lord.

CARTOGRAPHY IN RUSSIA.—M. Venukoff contributes to the *Revue de Géographie*, for April, an account of the progress of cartography in the Russian Empire.

The earliest map is that of the Italian Battista Agneze. This was found in 1884 in the library of St. Mark, at Venice, where the MS. still remains. It is in Latin, and bears the date 1525; and it has never been printed. Twelve years after this Anthony Wid, a Pole, brought out a map of European Russia, with a portion of Siberia. This served as the basis for Sebastian Munster's map in the *Cosmographia*, as well as for those of the various editions of Herberstain's *Rerum Moscoviticarum.*

In 1562 Jenkinson published, in London, a very detailed map of Russia and Tartary, which was reproduced the same year in the Atlas of Ortelius.

At the end of the XVI. century appeared the map known as the "Great Plan." This has now disappeared, but it was probably the original of the work produced by Theodore, the son of the Czar Boris, and engraved in 1614. On this engraved copy the meridians and the parallels are marked, the latter at intervals of 87 versts, while at the present day the degree is equal to 104.6 versts.

Three different maps were published between 1609 and 1612 by Isaac Massa, and towards the end of the XVII. century Russian cartography was illustrated by the works of Rémésoff and those of Witsen, the Amsterdam burgomaster, and friend of Peter the Great.

Peter introduced European methods, and formed a corps of thirty pupils of the Naval Academy, who worked during the years 1725–1740 on the map of Asiatic Russia. Charts of the Caspian and the Black Seas, the Sea of Azof and the Baltic were drawn during the reign of Peter by officers of the navy; and in 1745 the Academy of Sciences published at St. Petersburg an Atlas of the Empire.

As late as the middle of the XVIII. century the state of education in the country was such that very few persons, even of those belonging to the highest social position, knew how to make use of a map. Fifty years after the death of Peter, Catherine II., presiding in the Senate at a discussion which required geographical information, called for a map of Russia, and was answered that the Senate did not possess one. She handed some money to one of the secretaries, and sent him to purchase a copy of the atlas, published by the Academy thirty years before. Several of the Senators confessed that they had never heard of this atlas, and that they could not have used it if they had had it.

The foundations for exact cartography in the empire were laid by Catherine, who ordered that topographical surveys should be made in all the European provinces. The result of this work, continued through many years, was an atlas that remained the standard authority down to the time of Nicholas.

Great progress was made in Siberia, also, during the second half of the XVIII. century.

In 1822 a special corps of military topographers was created; and a number of triangulations were undertaken and carried through in various parts of European

Russia and of the Caucasus. Topographical surveys were made in Asiatic Russia, and special maps were prepared of such remote regions as the Kirghiz steppes, the Altai and Transbaikalia.

At the middle of the present century, Russia possessed: 1. For half of the European provinces a map on a scale of 1/420,000, showing, besides the cities, all the villages and nearly all the roads, all the streams, etc. There were also topographical maps on a scale of 1/42,000 or 1/84,000, of Poland, the government of St. Petersburg, Esthonia, etc.

2. Maps, partly topographical, of the Caucasus, then not subjected to Russia.

3. For Eastern Russia and the Kirghiz steppes, a number of geographical maps on a scale of 1/840,000 or 1/2,100,000.

4. For the southern part of Western Siberia, a geographical map on a scale of 1/2,100,000; and for the Altai Mountains, where topographical surveys had been carried out in detail, some special maps on the largest scale.

5. For Eastern Siberia there was, in 1850, nothing but Podzniakof's map of 1827; but the topographical survey, begun in 1848, was progressing under the Governor-General Mouravieff.

The marine charts of this period were numerous and good, and among them M. Venukoff mentions that of the Baltic and the Gulf of Finland, by Sarytcheff, Capt. Manganari's charts of the Sea of Azof and the Black Sea, Kolodkine's chart of the Caspian, and those of the coasts of Kamtchatka and Nova Zembla, by Lütke and Pakhtoussoff. The Russian voyages of discovery in various parts of the world, during these fifty years, added largely to the collections of original charts. In 1819-1822 Anjou and Wrangel mapped the north-eastern coast of Siberia.

The second half of the century began with the establishment of special classes of geodesy at the Staff Academy. From these officers were sent to the Pulkova Observatory for instruction in astronomy; and they were then assigned to duty in the various provinces. Gen. Stebnitzky, who is now at the head of the topographical section of the General Staff, was among the earliest of the students at the Academy. It is mainly due to his labors that the Caucasus, which was finally conquered only about twenty-five years ago, is now more thoroughly mapped than any other portion of the empire, with the possible exception of Poland.

Besides a number of sheets of the great topographical map, which represents the relief of the surface of nearly all the western provinces, or governments, there is a special atlas, on a uniform scale, of 1/420,000 for the whole of European Russia. This atlas, made under the supervision of M. Strelbitzky, is composed of 145 sheets, and gives all the villages and hamlets, with the number of houses in each one. It is brought out in two styles: one on copper, from which the forests are omitted, and one on stone, with the forests. This atlas is regularly revised and corrected.

Among the very numerous cartographical works of the Russian Staff, M. Venukoff especially recommends Col. Bolcheff's "General Map of Asiatic Russia," including, on a scale of 1/4,200,000 parts of Persia, Afghanistan and India, with nearly all China and the whole of Japan. It is, in M. Venukoff's opinion, the best map of the northern part of Asia; and Matoussovsky's "Chinese Empire" is, he affirms, superior to any other map of China.

Besides the Russian seas, many of the lakes and the rivers have been studied and mapped by skilful hydrographers.

The Imperial Russian Geographical Society has published, at its own expense, Tutikoff's map of European Russia, Schwartz's Southeastern Siberia, Oulsky's Chart, showing the depths of the Caspian Sea, two ethnographical maps of European Russia, etc.

The special maps issued by the Departments of Finance, of the Public Domain, and of Statistics, have been brought together by Mr. Ilyin and published as a Statistical Atlas, illustrating the material and intellectual progress of the nation. Mr. Ilyin is also the publisher of Von Tillo's many admirable maps.

THE TRANSCASPIAN RAILWAY.—Mr. Curzon, M. P., has lately made a journey in Central Asia over Gen. Annenkoff's great railway, and his observations are reported in the *Proceedings* of the Royal Geographical Society for May. He fully recognizes the skill and energy with which the Russians have done their work, but he does not seem to have been impressed, as M. Leclercq was, by the extraordinary difficulties of the undertaking. The main obstacle, which will always constitute a danger to the line, was the shifting sand, blown by the desert winds. Apart from this difficulty, Mr. Curzon is disposed to think that the road was the easiest and simplest ever built, the region traversed being as flat as a a billiard table for almost the entire distance of nearly 900 miles from the Caspian Sea. The journey is made in 72 hours. At the stations along the road, 61 in number, good refreshments are to be had, with very fine water-melons at less than 1 d. apiece, and grapes for a third of a farthing per lb. On the Kara Kum, the sights were an occasional group of Turkoman tents, the small clay watch-towers and the rectangular forts, and, more rare, the circular barrows or *kurgans.* The moving objects were, here and there a crow, or a camel, and the frequent sand columns caught by the wind and sent, giddily revolving, across the plain. In the distance a perpetual mirage converted the wilderness into lakes of water and floating islets of trees.

Merv, which fills so large a space in imagination and in books of travel, is a little place of two or three streets, and about 1000 inhabitants, but the country for miles around is covered with the ruins of the three ancient cities that bore the name. The desert beyond the oasis, which has an area of about 1600 square miles, is characterized as an "appalling" ocean of sand.

Gen. Annenkoff's bridge over the Oxus, built, as Mr. Curzon says, in 103 days, is, necessarily, a temporary structure of timber.

Bokhara, nominally independent, is to be regarded as a part of the Russian dominion in Asia. For the 150 miles between the capital and Samarkand, the terminus of the railway, the land is one fruit garden.

The military and political significance of the Trans-caspian road naturally has an interest for Mr Curzon, but he remarks that its immediate effect has been to secure to Russia the advantage over England in the competition for the trade of Central Asia.

THE OASES OF SOUTHERN TUNISIA.—The *Compte Rendu* of the Paris Geographical Society for the 1st March, reports an address made by M. Ed. Blanc, who went to Tunisia in 1885 to study the problem of arresting the encroachments of the sand dunes on the oases in the South. The methods which had proved successful on the French coasts were, he found, not applicable in Tunisia, with the immense expanse of the sand, its dryness and mobility, and the violence of the winds, added to the scarcity of materials for the work and the want of water, which made it impossible to consolidate the shifting sands by means of plantations. One by one these difficulties were overcome.

M. Blanc described four groups of oases, the Aarad, the Djérid, the Nefzaoua, and the fourth composed of the oases situated on the prolongation of the line traced by the southern base of the Aurès Mountains. Remarking the contrast between the richness of these fertile spots and the sterility of the surrounding desert, in which, nevertheless, the numerous Roman ruins proved that different conditions once existed, M. Blanc was led to consider the causes which had brought about so great a transformation. He did not believe this was due to the destruction of irrigating works, nor to the alternation of periods of drought with periods of humidity; and still less did he accept the theory that man had wrought the desolation by cutting down the forests. He believed the aridity of the Sahara to be the result of general geographical causes brought into action by modifications in the very form of the continents, such as the elevation of the Central Asiatic steppes and the progressive disappearance of the snows that covered during the glacial period many of the mountains in Europe, and, perhaps, also in Africa.

It will not recommend M. Blanc's explanation to all men to add that he attributed part of the effect to the subsidence of Atlantis. These various causes, he argued, diminished the quantity of moisture brought by the winds to this part of Africa, and, the equilibrium once broken between the amount of the rainfall and the evaporation, there ensued a progressive aridity now practically beyond remedy.

If not to be cured, the sterility of the desert may yet be modified by means of artesian wells. It must be remembered, however, that the supply of water from this source never can be very great, since the establishment of a second well in the neighborhood of the first sensibly diminishes the yield of this one; and irrigation of the whole country is, under the circumstances, an impossibility. The consumption of water for irrigating purposes in the oases is, on an average, about three-fourths of a pint per second for every hectare (about two and one-half acres). At this rate there would be needed for the yearly irrigation not less than forty inches of water, or ten times the amount of the rainfall; and this is evidently far greater than any possible supply from artesian wells.

A real transformation of the Sahara into a region susceptible of cultivation may be looked for, in M. Blanc's opinion, when the progress of science shall have found the means of subjecting and utilizing the great natural forces, such as the rise and fall of the tide, which is strongly marked in the Gulf of Gabes, and the solar heat, and applying them to the distillation of fresh water from the sea. The problem, in either case, is theoretically simple, and the practical solution of it can only be a question of time.

SLAVERY IN THE CONGO STATE.—E. F., who may or may not be Ernesto Farina, writes in the *Bollettino* (Marzo-Aprile) of the *Società Africana d' Italia* that slavery exists in the Congo Free State, having been gradually established on the upper river; and he refers to one Station near Stanley Falls which has enjoyed the distinction of being less expensive to the State than others, for the reason that labor at this Station was wholly performed by slaves. When the Arabs captured Stanley Falls in 1886, some of the Houssas (Hausa) escaped in a canoe, and were taken by the natives at Upoto. A Government steamer, sent for the purpose, recovered all but two or three of these men, and the officers purchased (*redeemed* is E. F.'s milder term) from the Upoto people some of their own slaves. These slaves the officers set to work at the Station. Other fruitless visits were made in search of the Houssas, (who, as British subjects, could not be abandoned to slavery) and at every visit the number of slaves offered for sale on the river bank increased. These were purchased by the Belgian agents for cotton goods, brass, iron wire, and the like. The trade went on, till one day the Government steamer arrived towing a large number of canoes filled with black soldiers. These landed under the protection of the steamer's guns, attacked and burned an Upoto village, and carried off thirty-five or forty women and children. These were taken to the Station and made to work for their captors, until they were ransomed at the rate of four slaves for a woman and two for a child. There are still other ways of procuring slaves. A European on a hunting excursion, wounds an animal, which escapes, but is afterwards found by some natives, who take the flesh for their own use, according to the native custom. The Belgians demand payment for the animal, and the natives refuse to pay ; and the Europeans resort to their unfailing argument.

It is falsely affirmed, according to E. F., that the slaves are better treated by the Belgians than by their native masters, and he recites the following instance :

A Belgian officer one day condemned a native woman, his personal slave, to be held face downward by four Houssas while a fifth flogged her with a whip of hippopotamus hide. The officer stood by and saw this done. A missionary, who heard of this infamous act, reported it to the Governor-General, but the officer kept his place.

E. F. has made several mistakes. In a matter so grave he should have given his full name, although the *Società Africana d' Italia* answers for him.

He should also have given the names of the Governor-General and the missionary and the Belgian officer, and, if he had them, the dates of the abominations he describes. To know of such things, and to spare in any way the men who do them is to be guilty of treason to humanity.

The civilized world is responsible for the establishment of the Congo State, and it is impossible to read without shame, in the light of E. F.'s revelations, the passage on p. 67 of the same *Bollettino*, in which Vice-

President Florenzano declares that the European activity in Africa is "*the development of the right inherent in the higher races to civilize and to improve those that are below them.*"

THE NEWS FROM STANLEY.—Letters received in London, on the 1st of April, told of Stanley's safety; and one of these, published simultaneously in the *Proceedings* of the Royal Geographical Society and in the *Scottish Geographical Magazine*, gives the details of the extraordinary journey through the Central African wilderness.

For the hardships endured and the dangers encountered this journey resembles the yet longer and more perilous march of Gonzalo Pizarro to the Napo and the Amazon.

The expedition left Yambuya on the 28th June, 1887, with 389 rank and file and 180 supernumeraries.

The objective point was Kavati, 322 geographical miles almost due E. from Yambuya, and the intervening country was absolutely unknown. On the 15th of December, after toiling through a seemingly endless forest and fighting with the natives and enduring many losses by disease and privation, the party reached a point whence they looked down on the Albert Nyanza, nearly 3000 feet below them. Here the opposition of the natives turned them back, and it was not till the 29th of April, 1888, that Stanley finally met Emin Pasha and Capt. Casati. He left them again on the 25th of May.

Following the Aruwimi River from Yambuya, Stanley traced it up to its source, on the edge of the Albert

Nyanza, and 800 miles from the Congo. He found that the Nepoko was a tributary of the Aruwimi, and that this, like so many other African rivers, bore many names. For 300 miles from its source it is called the Ituri, then, successively, Itiri, No-Welle, Nevoa, Suhali and Biyerre; all marked on Stanley's map, sent with his letter. Another name, *Dudu*, is omitted. For nearly the whole distance travelled the river flowed through an immense forest, like those of South America and Farther India, swarming with animal life and matted with vegetation. The picture of it is impressive :

> "Take a thick, Scottish copse, dripping with rain; imagine this copse to be a mere undergrowth, nourished under the impenetrable shade of ancient trees ranging from 100 to 180 feet high; briers and thorns abundant; lazy creeks meandering through the depths of the jungle, and sometimes a deep affluent of a great river. Imagine this forest and jungle in all stages of decay and growth—old trees falling, leaning perilously over, fallen prostrate; ants and insects of all kinds, sizes and colors murmuring around, monkeys and chimpanzees above, queer noises of birds and animals, crashes in the jungle as troops of elephants rush away; dwarfs with poisoned arrows securely hidden behind some buttress or in some dark recess; strong, brown-bodied aborigines, with terribly sharp spears, standing poised, still as dead stumps; rain pattering down on you every other day in the year; an impure atmosphere, with its dread consequences, fever and dysentery : gloom throughout the day, and darkness almost palpable throughout the night. . . . .
>
> "The mornings generally were stern and sombre, the sky covered with lowering and heavy clouds; at other times thick mist buried everything, clearing off about 9 a. m., sometimes not till 11 a. m. Nothing stirs then; insect life is still asleep; the forest is still as death; the dark river, darkened by lofty walls of thick forest and vegetation, is silent as a grave; our heart-throbs seem almost clamorous, and our inmost thoughts loud. If no rain follows this darkness, the sun appears from behind the cloudy masses, the mist disappears, life wakens up before its brilliancy. Butterflies scurry through the air, a solitary ibis croaks an alarm, a diver flies across the stream, the forest is full of a strange murmur, and somewhere up the river booms the alarum drum." . . .

Out of this dense growth the expedition came at once upon open, grass land, that stretched to the height above the Albert Nyanza. Stanley reports that this lake is rapidly decreasing in size. This decrease is due, he says, to the wearing away of the reefs that obstructed the Nile below Wadelai.

Just after parting with Emin, on the shore of the lake, Stanley saw, quite fifty miles away to the southwest, a snow-covered mountain, higher and more regular in outline than Mt. Gordon Bennett, discovered and unfortunately named by himself. This higher mountain may be, he writes, the Ruwenzori, "which the natives said had something white like the metal of my lamp on the top."

He looks upon the country lying between the Albert Nyanza and the lake he discovered in 1876 (the Muta-Nzige) as promising curious revelations; and he declares himself uncertain, at the time of writing (Sept. 1, 1888), whether the Muta-Nzige belongs to the system of the Nile or to that of the Congo.

If this letter has dispelled some of the apprehensions felt with regard to Stanley and to Emin Pasha, it still does not tell a complete story. The march to the Albert Nyanza was undertaken, as the world believed, to rescue Emin Pasha and his faithful comrades from deadly peril. Nothing is said of this peril in the account of the meeting; nor, though Stanley passed four weeks with Emin and Casati, could either of them find time to write a letter, or to send a message to his friends in Europe. These omissions do not explain themselves; neither is it easy to understand why, if any information was to be given, the outside world should have been left to guess at the plans and the future movements of the rescuer and the rescued. It is possible that the real purpose of Stanley's expedition has never been told.

THE PORTUGUESE IN NYASSA-LAND.—Under this title, Mr. J. Batalha-Reis, of the Lisbon Geographical Society, contributes to the *Scottish Geographical Magazine*, for May, a compact and solid article on the Portuguese priority of right as discoverers and explorers in the vast region of Central Africa, somewhat vaguely described as Nyassa-Land. Mr. Batalha-Reis wastes no sentiment on the matter, but proves, by citations of chapter and verse from books within reach, that his countrymen, in the sixteenth and seventeenth centuries, knew and visited the Shire River and the Nyassa Lake. He shows, also, that the Portuguese Government has always made its authority felt in the far interior, and that the native chiefs, whether submissive or antagonistic, have never ceased to recognize the Portuguese power.

All this is, without doubt, an old story to those who have paid some attention to the history of the early explorations in Africa; but it was necessary to state it once more, and especially in English, first of all, because as Eulenspiegel says, "that which is known from of old doth no man regard," and next, because Englishmen having designs of their own on Nyassa-Land choose to pretend that Portugal has no rights in that part of Africa.

Most English-speaking persons are content to err with Livingstone on this subject, and Sir Richard Burton might well have been more severe when he wrote: "With the greatest admiration of Dr. Livingstone's thoroughness, I am compelled to own that he has done scanty justice to that little, but heroic, nation which pierced for Europe a new pathway to the East. In fact, the very mention of Portuguese explorations seems to act upon him as a red rag," (quoted by Mr. Batalha-Reis, on p. 260).

It was eminently fit that an unanswerable statement of the historical truth concerning these matters should appear in the *Scottish Geographical Magazine*, which published about a year ago (in Vol. IV., p, 305) the opinion, no less cautious than courageous, that "German claims might be satisfied, and Portuguese claims should be overlooked, in securing the free navigation of the Zambesi to the flags of all nations."

LOURENÇO MARQUES.—Besides the railroad which is to unite it with Pretoria, in the Transvaal, and the electric lights for which the Town Council has invited tenders, Lourenço Marques has other cares. It has just been threatened with a revolt of the Hindoos, who hold so much of the East African trade in their hands.

The movement on the part of the Banians was serious enough to justify the issue of supplements to the handsome weekly paper, *Districto de Lourenço Marques*, but the provoking cause of the disturbance has its humorous side.

On the 11th of March last the Town Council made an ordinance requiring the Banians and the native Africans, in the interest of public decency, to wear trousers. The Africans received the order with bare indifference, but the Hindoos took it as an affront, and appealed, after much turmoil, to the Governor-General of the Province, who telegraphed a message to suspend the execution of the decree. Upon this the Town Council met in extraordinary session. Many speeches were made, and a flood of light was thrown upon the historical relation of Hindoos to trousers, and, finally, the Council unanimously re-affirmed the ordinance. The Governor-General was duly informed of this action, and gave way, leaving the municipality to manage its own affairs.

THE ASCENT OF KILIMANJARO.—On the 12th of November, 1888, Mr. Otto E. Ehlers set out in company with Dr. Abbott, an American naturalist, to make the ascent of Kilimanjaro. In his lively account, published in *Petermanns Mitteilungen*, 35 Bd., III., Mr. Ehlers says that he was delighted to have a companion, because four eyes see better than two, while hardships are diminished by half and enjoyments increased tenfold, and, finally, because in Africa, more than anywhere else, it is the traveller's duty to neglect no one matter of interest that may present itself.

The first camp was at the foot of a small crater to the south of Kimawenzi, which lies E. of Kibo, the higher summit. The night was cold—they were at an elevation of 9800 feet—and the next morning one of the three native soldiers, whom Mr. Ehlers had provided a few days before with warm clothing, quietly stole away, clothes and all. Mr. Ehlers consoled himself with a quotation from Faust; and the other soldiers lost no time in following their comrade.

As a preliminary training for Kibo, Mr. Ehlers climbed Kimawenzi to a height of more than 16,000 feet. To go higher than this on a mountain so jagged, and so cut up by deep gorges, he believes to be, though he will not say it is, an impossibility. In the afternoon of this day three antelopes of a new species were seen, at a height of nearly 12,000 feet. The next two days were passed in reconnoitring and in collecting specimens. The third day a place was selected for a camp, and here fifteen of the men were left; ten were sent back to Marangu for supplies, and, with five others, Mr. Ehlers and Dr. Abbott set out for the snow region. They came upon it very soon, for during the night snow had fallen, and their men were at first like children in their pleasure at the sight, though their bare feet soon began to suffer, and they cried out that they were going to die. They kept on, however, stoutly enough, till their advance was stopped by a precipice, and Mr. Ehlers found he had repeated Dr. Meyer's mistake of taking a path that led towards Kimawenzi. They encamped for the night, and had hardly done so when there came on a snow storm as furious as any ever known in the far North. The next morning was splendidly clear, with a still air and a cloudless sky. After crossing some lava ridges, the travellers passed to the north of the chain of hills between Kibo and Kimawenzi. The snow was six inches deep on the loamy ashes, over which they slipped and struggled. The night of the 17th, when the last camp was reached, was still, with bright moonlight; and the next morning the road was plain and smooth as a floor over the hard, frozen surface. Before long, however, this was succeeded by blocks of lava and hills of ashes. At 7 o'clock the two explorers had reached an altitude of 17,000 feet, and enjoyed a magnificent view of the great

Masai plain below them, stretching northward from Kibo. Here Dr. Abbott's strength failed, and Mr. Ehlers had to go on alone.

He had climbed a thousand feet higher, and had just comforted himself with a pull at the brandy flask, to the health of a distant person, when his *alpenstock* slipped from his hand, and lodged nearly 200 feet below him. He recovered it, thinking meanwhile how slight a thing, in such a place, might reduce him to helplessness. About 10 o'clock he reached the ice-cap, that covered the mountain top. It was impossible to climb this wall of ice, and, after turning around it, he descended the mountain for some distance, and found on the N. W. side an approach that gave him a wide view of the summit. There was no sign of a crater, but the undulating surface lay before him covered with snow.

Mr. Ehlers finds that the measurements made by Dr. Abbott and himself do not agree with those of Dr. Meyer, but he is convinced that the mountain is nearly 20,000 feet high (6000 metres). At 16,400 feet he found the tracks of an elephant, besides those of antelopes and buffaloes, as well as the last sign of vegetation in a species of everlasting flower.

Den óstgrónlandske Expedition udfort i Aarene 1883–85, under Ledelse af G. Holm. 2 vols. Kjóbenhavn, 1888; (with French Résumé of the 2d vol.) from the author.

Capt. Holm's book gives an exhaustive account of Eastern Greenland, its geography, geology and ethnography, and it is not easy to believe that there remains much to be gleaned after him and his fellow-workers in the expedition of 1883–85. The opening dissertation on

Österbygd (of which no traces were found) is by Dr. Steenstrup, the report on the expedition and the geographical description are by Capt. Holm and Lieut. Garde, the geology is treated by Drs. Knutsen and Eberlin, the botany by Prof. Lange, and the comparative study of the meteorological observations is made by Prof. V. Willaume-Jantzen. In Vol. II., Dr. Sóren Hansen writes of the anthropology and Capt. Holm of the ethnology. Mr. Johannes Hansen is responsible for the list of the inhabitants. Dr. Rink explains the East Greenland dialect, and adds valuable notes to the legends and tales collected by Capt Holm.

The coast has been carefully mapped from Cape Farewell in 59° 49′ up to 68° 45′ N. Lat., including the numerous *fiords* that run so far into the land.

East Greenland as defined by Capt. Holm has five natural divisions, marked by points along the coast. These are: from Cape Farewell north to Auarket, from Auarket to Ikermiut, from Ikermiut to Igdloluarsuk, from Igdloluarsuk to Inigsalik, and from Inigsalik to the point where the exploration ceased. In the second and the fourth divisions, the land ice comes down to the edge of the water, but in the other three the *fiords* are walled in by high and steep mountains. The general direction of the *fiords* towards the sea is a little south of east, while on the west coast of Greenland the direction is south-westerly.

The most interesting part of the work is that which describes the inhabitants of Angmagsalik, a region lying between 65° and 66° N. Lat. These people had never come in contact with the civilized world until they were visited by Capt. Holm's party.

They number 548 persons, 245 of them males. In stature they exceed the Greenlanders of the south and west, the average height of the Angmagsalik men being about 5 ft. 3 in., and that of the women not quite 5 feet. They are fairly well developed in the upper part of the body, but the legs are short and thin and comparatively weak, and Capt. Holm is disposed to think that this feebleness is due to the close confinement and cramping of the limbs on board of the *kayaks*, in which the men pass their days.

The complexion of these East Greenlanders is a yellowish brown, lighter in the women than in the men. Their eyes are brown, and the hair, which is thick and smooth, is dark brown or black.

The climate is milder than that of the western coast, but the vegetation is almost confined to heaths and mosses. The sea furnishes the principal means of subsistence. The only domestic animal is the dog.

The people call themselves *Inik*, or *Tâk*, that is, *men*. In the winter they live in houses made of stone and turf, with but one room, from 24 to 50 feet in length—according to the number of families united in it—and from 12 to 16 feet in width. The site is generally a sloping ground near the sea, and the windows look out on the water. As many as ten families sometimes occupy the same house, and the oldest man is regarded as the head, if he has been or is a good hunter, and has sons distinguished in the same way ; and this is the only distinction recognized. When the spring comes, and the tent life begins, the large community separates, and none but the kindred remain together. The inhabitants of one house are often at enmity with those of another ; which looks like civilization.

Theft is not uncommon, and murders are frequent, for so small a population. There is no public recognition of these crimes other than the songs sung alternately by the parties on both sides, in the presence of an audience, which approves or disapproves. Between the songs, the adversaries display no ill-will, but treat each other as if there were no cause of trouble between them.

These contentions, with the accompaniment of the drum, are not decided by one trial, but are repeated very often, so that they sometimes last for years.

The ties of blood impose the obligation of mutual help. On the other hand, marriage is not held to be a family tie, and the wife is treated as a servant to be dismissed at pleasure. If she has a child, her position is more secure. The men marry as soon as they are in a position to maintain a wife. Skilful hunters have often two wives, but there is no instance known of a greater number.

Longevity is not common in East Greenland. Six or eight persons, and certainly not more than ten, are supposed to have reached the age of from 60 to 70 years. When a man dies, the body is dressed in the best winter clothes, the head is covered with a hood, and the legs are tied together. The corpse is then dragged out of the house by the ordinary passage, or through the window, and thrown into the sea, or left for the tide to carry away. If the sea is frozen, the body is pushed through a hole in the ice. Sometimes the burial is after the ancient fashion of laying the body on the rocks, and covering it with stones; but in either case the weapons and tools of the deceased are laid near him. Mourning for the dead is manifested by lamentations and groans, and abstinence from certain indulgences; and the name of the dead man must not be pronounced. Any one who bears the same name must find another; and if the deceased was called by the name of an animal, or an object, or an idea, the word must be changed. These changes being accepted by all, it follows that the language undergoes great modifications.

Man is composed of three parts: the body, the soul, and the name (*atekata*). The body, of course, is perishable. The soul, which lives in the man, is extremely small, not larger than a finger or a hand. If it falls sick, or dies, the man goes with it. When the man dies, the soul returns to life, either in the sea or in the air. Both are good places, but the sea is to be preferred.*

The *Atekata*, or name, is as large as a man, and enters into the child when it is born and rubbed around the mouth with water, while the names of those after whom it is to be called are pronounced. When a man dies, the *Atekata* stays near the body until a child is named after the deceased. It then enters into the child and continues its existence. Children that die, whether naturally, or by violence, go to heaven and there produce the *Aurora Borealis*, which is called after them.

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*Capt. Holm quotes from Johannes Hansen, on this subject: "(They believe that) a man has many souls. The largest live in the throat and in the left side of the man, and are little men about the size of sparrows.

"The other souls, which are of the bigness of a finger-joint, live in the other parts of the man's body.

"When the *Angekoks* (sorcerers) take away one of the souls, the part of the body thus treated falls sick. If another *Angekok* finds the soul and restores it to its place, the man regains his health; but if this cannot be done, the man dies and the soul goes off on its wanderings."

There is a story among these Eskimos that Greenland is an island, and that long ago a man named Uyartek went round it. It is hardly credible that people in their state of intellectual development should be able to conceive the idea of a vast territory like Greenland, with its relation to the sea and to other lands, and the story is, most probably, to be understood of some island on the coast.

It is to be hoped that this very interesting book may be made accessible to a larger public in an English or a French translation, with the numerous illustrations, almost uniformly excellent, and the maps, which are beautiful specimens of work.

Geografia Etnologica e Storica della Tripolitania, Cirenaica e Fezzan, con Cenni sulla Storia di queste regioni e sul silfio della Cirenaica, per Ferdinando Borsari, (from the Author.) Napoli, 1888.

Professor Borsari says in his preface that, looking to the probable changes in the near future in the relations of the lands lying between Tunisia and Egypt, he felt that some such work as this was especially called for in Italy. He regrets his own shortcomings and the unavoidable breaks in the narrative, not to be filled up until the regions to the east of Tunisia have passed under the control of some enlightened government. If the present work finds favor, the author will bring out another on the physical and economical geography of these countries, illustrated by a geographical and historical map. Such a task could not be put into better hands, and Prof. Borsari would do a kindness to students of all nations by completing what he has so well begun. His book has been called a compilation. It is a compilation, so far as the name implies industry on the part of the writer ; but it is also an independent and critical work, in which the author has used and systematized materials, has rejected and interpreted authorities, and has brought the whole into order with adequate learning and judgment. There are persons who weary of meeting the same names in history, and are ready to quote Emerson without understanding him : "How often must we say Rome and Paris and Constantinople!" True ; but if you will read what men have done you must read these names, and others. In writing of the Mediterranean lands, once so highly civilized, Prof. Borsari has to go to the fountain head.

He begins with the megalithic monuments, and then considers successively the fair-haired Libyans, the origin of the Libyans, the North-African ethnology, the Berber language and the Berbers (whose Vandal origin he rejects), and the present inhabitants of Tripolitania, Cirenaica and Fezzan.

* The historical portion of the geography is studied with the same care, and the descriptions of the Syrtes, the mountain-systems and the hydrography bring to-

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* In a reference to Pindar, on p. 75, Prof. Borsari quotes from Giosuè Carducci a passage in which the Italian poet has repeated, consciously or unconsciously, Gray's superb lines :

"Or the pride and ample pinion
That the Theban eagle bear,
Sailing with supreme dominion
Through the azure deeps of air."

Carducci :

" . . . . aquila trionfale
Distende altera e placida il remeggio de l'ale
Ne 'l fulgente meriggio su i fôri e le città."

gether in a few words what is known concerning these subjects.

There are two bibliographical lists and one table, the preparation of which must have cost great labor. This table shows in parallel columns the names of places from Scylax, Strabo, Pliny, Ptolemy, the Antonine Itinerary, the Peutingerian Table, the Stadiasmos of the Great Sea and the Ravenna Cosmographer, and identifies them, as far as possible, with the modern names.

The publisher has brought out the book in excellent style.

Kimbundu Grammar. Grammatica Elementar do Kimbundu ou Lingua de Angola por Héli Chatelain. (*from the Author.*)

Genebra, 1888–89,

Mr. Chatelain is a native of Switzerland, a missionary and a trained scholar, who visited Angola in 1884, and acquired the language. His grammar is designed for the use of the natives and of missionaries in West Africa, and is, therefore, written in Portuguese; but most of the words and phrases are also explained in English.

Mr. Robert Cust, who speaks with authority on the languages of Africa, writes a brief introduction to the *Grammatica.* He shows the importance of the Bunda, or Ki-Mbundu, tongue by describing it as the *lingua franca* of Western South Africa; and he expresses the highest regard for Mr. Chatelain's work as a teacher, and for his character as a missionary of a singularly devoted and self-denying spirit.

Nouveau Dictionnaire de Géographie Universelle.

The fourth volume, now well advanced, of this great work, in which M. Vivien de Saint-Martin has had the able assistance of M. Louis Rousselet, shows no diminution in the qualities that have marked it from the beginning. It is the misfortune of encyclopædias and of dictionaries that they are part of the human history, which moves straight forward on a continuous line, without regard to arbitrary limits, so that, as M. Renan has said, all history must be rewritten every hundred years. The term allowed to an encyclopædia, even of a special branch, is yet more brief; but for the thoroughness of its treatment and the accuracy and the care with which its statistical information is brought together, the *Nouveau Dictionnaire* keeps and deserves a foremost place among geographical works.

La Tunisie, Géographie, Événements de 1881, *Organisation Politique et Administrative, Organisation Judiciaire, Instruction Publique, Finances, Armée, Commerce, Industrie, Travaux Publics, Système Monétaire, Par Amédée Rivière. Préface par M. Albert Mailhe.*
Paris, 1887.

This is the comprehensive title of a book which contains 150 12mo. pages, including the preface. In this, M. Mailhe allows his regard for the author to carry him a little too far, when he affirms that this precious work leaves nothing to be told concerning Tunisia and its people. A similar claim is made by every enterprising publisher of an encyclopædia; and *La Tunisie* has the merits and the defects of an article written for such a publisher. A few of the subjects are treated at length, other are briefly dismissed, and some that should appear are omitted. There is, for instance, not a word on the ethnography of the country.

No fault could have been found with M. Rivière if he had said nothing about the steps which led to the occupation of Tunisia by the French ; but he has chosen to tell the story with so many suppressions that his readers cannot go with him.

TITLES OF PAPERS IN GEOGRAPHICAL JOURNALS.

AMSTERDAM.—*Kon. Nederlandsch Aardrijkskundig Genootschaap, Tijdschrift.*

An answer to Dr. J. Lorié, by K. Martin—Some Geological Observations in the Neighborhood of Baarn—Schokland (island in the Zuyder Zee)—The Talaut Islands (a group N. E. of Celebes)—Flores—Communications respecting the Hemenway Expedition, (by Dr. H. F. C. Ten Kate, Jr.,)—The Argentine Republic in its Relations to Commerce and Emigration —The Influence of Forests on the Rivers of Middle Europe.

BERLIN.—*Gesellschaft für Erdkunde, Verhandlungen.*

The German Protectorate in South-western Africa —The Final Results of the Investigation of the Krakatoa Phenomena—Dr. Hettner's Second Report on his Travels in Perú and Bolivia—On the Origin of the name "America."

Deutsche Kolonialzeitung.

African Soil and Land (by P. Reichardt)—A Visit to Hendrik Wittboy, the Hottentot Messiah, in the Summer of 1888—Prof. Sering on Colonization and the German Element in North America—Lake Nyassa—The Arabs in Central Africa—A German Protest against Slavery 200 years ago—The White Book on Samoa—African Land and Soil (by A. Merensky)—Bagamoyo—The Latest Regulations of Brazilian Immigration-Policy—A New "South-African Committee," and the Feeling at the Cape (by Karl Blind)—The German in Kaiser Wilhelmsland in his attitude towards the Natives—Propositions for a practical Colonizing Occupancy of East African Possessions—The Situation on Lake Nyassa—What is to become of the Freed Slaves—A German Settlement on the Orange River—Matabele Land and the Boer Free State—The Control of the German Emigration—Colonization in the Grand Style—Stanley's Expedition—Otyimbingue (Damara Land)—The Italians in Somali Land—What does the Koran say of Slave-hunting and Slavery ?—The First Travels of Europeans in our South-west-African Protectorate—The Commerce of the Congo State and the Congo Railway.

BRUSSELS.—*Société Royale Belge de Géographie, Bulletin.*

The Exploration of the Ubangi-Dua-Koyu (by Capt. Vangèle)—From Tiflis to Samarcand (by Jules Leclercq).

Le Mouvement Géographique.

The Origin of the name "America"—Lake Shambara and the Uma River—Events at Zanzibar—Exploration of the Kasaï and its Affluents by the steamer " Roi des Belges "—Stanley to the Rescue of Emin Pasha—The Lomami : a newly discovered Water-way bringing steamers within three days of Nyangwé—The Muta-Nzige Problem—The Sources of the Nile—The Congo Railway.

BUDAPEST.—*Société Hongroise de Géographie, Bulletin.*

John Hunfalvy (founder of the Society)—Hungarian Women known as Travellers.

EDINBURGH.—*The Scottish Geographical Magazine.*

Islands of Melanesia—Dr. Livingstone and Lake Bangweolo—On the Earthquake Shocks Experienced in the Edinburgh district on Friday, January 18, 1889—Explorations in the Atlas Mountains—Lapland and Siberia by way of the Arctic Sea—The Eskimo Tribes—Leadville, Colorado—Letter from Mr. H. M. Stanley to the Royal Scottish Geographical Society—Samoa—The Portuguese in Nyassa-Land.

GOTHA.—*Petermanns Mitteilungen.*

The Ethnographic Relations of Macedonia and Old Servia—My Ascent of Kilimanjaro (Otto F. Ehlers)—The Soil of German East Africa—The South-west-African Protectorate—The New Map of Africa on a Scale of 1/10,000,000 (Stieler's)—The Latest Danish Explorations in Greenland—Geographical View of the Flora of Schleswig-Holstein—The Region at the Source of the Eastern Arm of the Tigris.

LÖCSE (HUNGARY).—*Ungarischen Karpathen-Vereines, Jahrbuch des.*

A Winter Tour in the Tátra Range (Western

Carpathians)—An Alpine Village in the Upper Tátra—Prehistoric Spots in the County of Liptau—Art-Monuments of the Middle Ages in Löcse—Travels in the Carpathians by Land and Water—Excursions in the Tátra Range of Liptau and Galicia.

LONDON.—*The Royal Geographical Society, Proceedings.*

The Gran Chaco and its Rivers—Explorations in the Glacier Regions of the Selkirk Range, British Columbia, in 1888—Explorations on the Chindwin River, Upper Burma—Letters from Mr. F. C. Selous on his Journeys to the Kafukwe River and on the Upper Zambesi—Formosa: Characteristic Traits of the Island and its Aboriginal Inhabitants—Letter from Mr. H. M. Stanley, on his Journey from Yambuya Camp to the Albert Nyanza—The Transcaspian Railway—The River Antanambalana, Madagascar.

NATURE.

Structure, Origin and Distribution of Coral Reefs and Islands—The Gradual Rising of the Land in Sweden (Nordenskiöld)—The New Traveller's Guide to Scientific Inquiry—The Geographical Results of Mr. Stanley's Expedition—The Surface of the Earth—Notes on Stanley's Journey—Further Notes on the Geology of the Eastern Coast of China and the adjacent Islands—Rain Clouds on Lake Titicaca.

MADRID.—*Revista de Geografía Comercial.*

Spanish Commerce with Morocco—Render unto Cæsar that which is Cæsar's—The Philippine

Islands, as seen by a Foreign Writer (Blumentritt)—The Province of Pontevedra.

MILAN.—*L'Esplorazione Commerciale.*

Massowah as a Colony—Military Operations against the Abyssinians and our Colonial Native Troops—Atlantis (suggested by Joaquin Costa's study in the *Revista de Geografía Comercial,* of Madrid, 1886)—Laos and Camille Gauthier's Exploration—African Notes—Correspondence from Tripoli—Letters from Harrar.

NAPLES.—*Società Africana d'Italia, Bollettino.*

Harrar—An Expedition to Eastern Africa—A Reconnaissance in Keren—Western Africa—Capt. Wissmann in the Reichstag—From the Bight of Biafra—From Saati to Metemma—The Senusi in History and Geography—Mozambique, Delagoa Bay and Natal—Slavery and the Congo State.

NEUCHATEL—*Société Neuchâteloise de Géographie, Bulletin.*

Downs, and their Formation—Maria Island (E. coast of Tasmania, near Darlington)—The Somali—Travels among the Bogos and in Northern Abyssinia—The Old Roads and the Old People of Val-de-Travers (in the Swiss Jura)—The Seventh Congress of the Swiss Geographical Societies.

NEW YORK.—*Science.*

An Agricultural Map of North America—Resources of the Nyassa Region—The Adirondack Forests—West Indian Hurricanes—Stanley's Letter—Exploration in Mexico—Railways in China—The Explorations of Capt. Binger (in the French Sudan).

PARIS.—*Société de Géographie, Compte Rendu.*

The Oases in the Southern Part of Tunisia—The Application of Photography to Geography—The City of Sobral (province of Ceará, Brazil)—Memoirs of the Topographical Section of the Russian General Staff—Map of the Pamir—Russian Geographical Expeditions—Oceanography—Geography in Russia—Borings for Artesian Wells in the Sahara—The French Sudan—Taupin's Exploration in Laos—Cambodia—The M'Zab and the Beni M'Zab (in the Algerian Sahara).

RIO DE JANEIRO.—*Revista do Observatorio.*

The Origin of Meteorites—Climatological Review of the Month of January, 1889—Aspect of the Heavens during March and April, 1889.

ROME.—*Società Geografica Italiana, Bollettino.*

The Teleki Expedition—Researches in the Archives of Savona—The Earthquake in Liguria in 1887—Memorial Notice of Cesare Correnti—Physical and Social Conditions of Paraguay—A Skull from Somali Land—A Bushman Picture—The Rio Branco (or Parima) Brazil—A Pilgrimage from Bordeaux to Jerusalem (following the Bordeaux Pilgrim, A. D. 333)—The New Course of Historical Geography—On Some Cities of Spain and Portugal.

TURIN.—*Cosmos.*

Notes of a Journey from Shoa to Assab—Progress of British New Guinea in 1887, from the Official Report of the Special Commissioner—The Aru Islands (80 m. South-west of New Guinea) and the Maclay Coast, in German New Guinea.

VIENNA.—*Kais. Königl. Geographischen Gesellschaft, Mittheilungen der.*

Death of the Crown-Prince, the Archduke Rudolf —On Determinations of Gravity—Travels in German East Africa—Statistics of the Italian Colonies in Rio Grande do Sul (Brazil)—The Subterranean Streams of Inner Carniola—The Rudolf-Grotto in Küstenland (the Adriatic Coast and Islands)—The Nicobar Islands and their People—Two Maps of the Surface-Level of France.

Deutsche Rundschau für Geographie und Statistik.

A Critical Excursion in the Doctrine of the Four World-Periods of Indian Brahmanism—Maghreb, the Land of the Setting Sun—A Visit to Corea—The Scientific Bases of Business Geography—From Leh in Ladak to the Pangong Lake (Tibet)—The Mammoth Cave—Virchow's Investigations concerning the Anthropology and Early History of Egypt—The Eruption of Krakatau and the Cloud-Glows—The Aschinof Expedition—Prjevâlsky—Travels in the Crimea—The Kerguelen Islands—Stanley's March to Emin Pasha.